

CHRYSANTHELLUM PILZII (COMPOSITAE),
A NEW SPECIES FROM OAXACA

JOHN L. STROTHER

Botany – Herbarium, University of California, Berkeley 94720

Curating can be rewarding. I first noticed the following, heretofore undescribed, taxon as a single, unidentified specimen in UC (Oaxaca, Salina Cruz, 15 Jul 1946, *T. Morley 680*). George Pilz and I went to Oaxaca to collect the “new” taxon. He found it before I did. I am naming it for him in recognition of his prowess.

Chrysanthellum pilzii Strother, sp. nov. A ceteris *Chrysanthellis* combinatione foliorum caulinarum oppositorum, floscolorum discorum fungenter staminatorum, acheniorum circinatorum et aculeatorum differt. Figure 1.

TYPE: Mexico, Oaxaca, ca 1 km east of Salina Cruz (ca 16°12'N, 95°09'W), beach sand, 22 Jul 1971, *Strother 1094*. Holotype, UC; isotypes to be distributed to K, MEXU, MICH, TEX, US.

Prostrate to ascending annuals; stems several, mostly 5–15 cm long, terete, striate, sparsely hirsute to glabrescent. Basal leaves mostly 4–10 cm long including petioles 2–6 cm long; cauline leaves opposite, smaller; blades 1–2 pinnatisect, lobes cuneate to lanceolate, ultimate divisions often toothed, upper surfaces green, sparsely pubescent with short, erect, simple hairs and scattered, gland-tipped hairs, lower surfaces whitish, glabrous or nearly so, covered with thick, opaque cuticle. Heads solitary at ends of branches, borne on erect, naked peduncles 2–10 cm long. Involucres turbinate to campanulate. Phyllaries mostly 8, imbricate, graduate, lanceolate to ovate, 4–6 mm long, purplish, striate, scarious-margined, subtended by 3–5 short, lanceolate bractlets. Receptables slightly convex, paleaceous; paleae 3–5 mm long, very slender, scarious-margined. Ray florets pistillate, fertile, mostly 8(–12); corollas ligulate, golden yellow with darker nerves, tube ca 0.5 mm long, lamina ovate-elliptic, retuse, 4.5–5.5 mm long; style branches 0.4 mm long, minutely papillate, stigmatic; achenes 5–6 mm high, circinate recurved, adaxial surface convex, purplish, prickly, abaxial surfaces concave, stramineous, smooth; pappus none. Disc florets functionally staminate, mostly 40–50; corollas dark yellow, distally tinged with purple, 3.0–3.5 mm long, tube cylindrical, ca 1 mm long, throat campanulate, ca 2 mm long, lobes 5, deltoid, erect, ca 0.5 mm long; style branches ca 2 mm long, papillate-hirtellous throughout, nonstigmatic; anthers 5, ca 1.5 mm long including blunt apical appendages and short basal collars; ovaries elongating to ca 3 mm but not forming achenes.

Chrysanthellum comprises about a half dozen species of diminutive annuals that grow in mostly subxeric habitats in Old and New World tropics and subtropics. Some are apparently weedy.

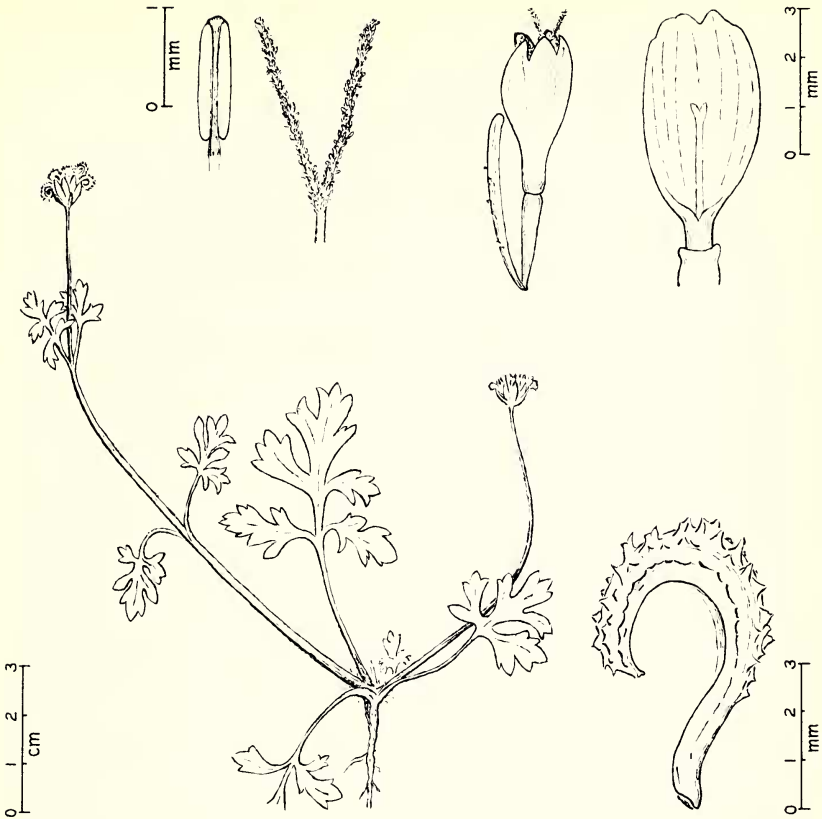


FIG. 1. Habit and details of *Chrysanthellum pilzii*. All from type collection.

Smith and Turner (1975) surveyed numerous Compositae for Kranz syndrome (C_4 photosynthetic metabolism). All *Chrysanthellum*s that they examined (four species) were found to be Kranz plants as were representatives of *Eryngiophyllum*, *Glossocardia*, *Glossogyne*, and *Isostigma* (all Coreopsidinae). Turner (in Smith and Turner, 1975) indicated that these genera, including *Chrysanthellum*, also form "a natural group" morphologically. Leaf anatomy of *C. pilzii* suggests that it too is a Kranz plant.

Chromosome numbers for *Chrysanthellum*s are: *C. mexicanum* Greenm., $n = 8$ (DeJong and Longpre, 1963; Powell and Turner, 1963); *C. involutum* P. G. Wilson, $2n = 8$ II (Strother, 1972); and *C. pilzii*, $2n = 12$ II (reported here from type collection). The relationship of the 12 to the 8's is puzzling; sound speculation cannot be offered without additional information.

Reproductive biology in *Chrysanthellum* also merits investigation. In widespread, weedy taxa [e.g., *C. americanum* (L.) Vatke and *C. indicum* DC.], there is often a tendency for disc florets to be functionally staminate. In more narrowly distributed taxa (*C. filiforme* McVaugh, *C. involutum*, and *C. pilzii*), disc florets apparently never set achenes.

Field work was supported in part by a grant (GB-7995) from National Science Foundation.

LITERATURE CITED

- DEJONG, D. C. D. and E. K. LONGPRE. 1963. Chromosome studies in Mexican Compositae. *Rhodora* 65:225-240.
- POWELL, A. M. and B. L. TURNER. 1963. Chromosome numbers in the Compositae. VII. Additional species from the Southwestern United States and Mexico. *Madroño* 17:128-140.
- SMITH, B. N. and B. L. TURNER. 1975. Distribution of Kranz syndrome among Asteraceae. *Amer. J. Bot.* 62:541-545.
- STROTHER, J. L. 1972. Chromosome studies in western North American Compositae. *Amer. J. Bot.* 59:242-247.

NOTES AND NEWS

GEORGE W. GILLETT, 1917-1976.—Professor Gillett died on 14 Jan 1976 at Loma Linda, following open-heart surgery. He was born in Clifton Springs, New York, on 30 May 1917 and grew up in Carroll, Iowa. He received a B.S. in Forestry at Iowa State University in 1940 and served with the U. S. Air Force and worked for the U. S. Forest Service before earning a M.F. at University of California, Berkeley, in 1949. He went on to earn a Ph.D. in botany at Berkeley in 1954. He taught at Bakersfield College, Michigan State University, University of Hawaii, and University of California, Riverside. George Gillett was known widely through the world for his detailed taxonomic studies in such genera as *Cyrtandra*, *Bidens*, *Scaevola*, *Wikstroemia*, and *Pipturus* and for his interest in Pacific biogeography. His earlier interests included *Phacelia* and the flora of Lassen National Park. A careful planner, George was completing arrangements for an extensive *Cyrtandra* collecting trip to interior New Guinea only a few days before his death. His many friends esteemed him as a competent, thorough taxonomist and as a colleague and scientist of very high standards. Mostly, however, he will be remembered as a good friend whose many thoughtful courtesies evoke the reflection that he took time to be a gentleman.

AGROSTIS THURBERIANA (GRAMINEAE), NEW TO SOUTHERN CALIFORNIA.—*Agrostis thurberiana* Hitchc. has been collected: San Bernardino Co., South Fork of Santa Ana River, San Bernardino Mts., N slope, wet sandy soil in shaded meadow in Yellow Pine Forest, ca 2400 m, 1 Aug 1974, *Gordon et al.* 518 (SFV).

The previously acknowledged range of *A. thurberiana* extends southward from British Columbia to the North Coast Ranges of Humboldt County and in the Sierra Nevada to Tulare County (Munz, *A California flora*, 1959). It also occurs in the Rocky Mountain region south to Utah and Colorado (Hitchcock and Chase, *Manual of the grasses of the United States*, 1950).

Many characteristically northern plants have southern outposts in the San Bernardino Mountains, e. g., *Bromus ciliatus* L. and *Festuca rubra* L., both of which were found growing in close association with *A. thurberiana* at the Santa Ana River site.—MICHAEL H. GRAYUM and THOMAS R. GORDON, Biology, California State University, Northridge 91324.

MONTANA MOUNTAIN FLORA: NEW RECORDS.—As a result of intensive botanical exploration in the Bitterroot Mountains, Missoula and Ravalli Counties, in the mountains of the Anaconda-Pintlar Wilderness area along the Continental Divide, Deer Lodge and Granite Counties, further collecting to the north on Choteau Mountain, Teton County, and to the east in the Bridger Mountains, Gallatin County, as